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10/052,987	11/07/2001	Thomas W. Smith	D/A1422	1213

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EXAMINER	
SHOSHO, CALLIE E	

ART UNIT	PAPER NUMBER
1714	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/052,987	SMITH ET AL.	
	Examiner	Art Unit	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 9-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7 and 9-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding rejections are overcome by applicants' amendment filed 12/11/03.

The new grounds of rejection as set forth below are necessitated by applicants' amendment and thus, the following rejection is final.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 4, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler (U.S. 6,297,296) in view of Gundlach et al. (U.S. 6,054,505).

Wexler discloses process which comprises mixing water/anionic dye with water/polyquaternary amine to cause formation of complex of anionic dye and polyquaternary amine, precipitation of complex, and isolation of the formed complex. There is also disclosed a process of preparing an ink jet ink composition which comprises adding the anionic dye-polyquaternary amine complex formed from the above process to ink carrier which comprises organic co-solvent including alcohols and ketones. The anionic dye includes Acid Yellow 23, Acid Red 52, Acid Blue 9, and Direct Blue 199 (col.1, lines 5-10, col.3, lines 26-32, col.4, lines 10-11 and 12-18, col.5, lines 4-7, 11-13, 19-22, col.7, lines 11-14, 19-23, and 45-49, and col.8, lines 6-8 and 15-20).

It is noted that example 1 of Wexler discloses using 0.017M dye solution of Tartazine (Acid Yellow 23) from which it is calculated that the dye solution comprises approximately

0.9% dye (0.01 mol/L x 534.37 g/mol (MW of dye) x 1 L/1000 g). However, as set forth in col.4, lines 12-21, various anionic dyes are used in Wexler in addition to Acid Yellow 23 such as Reactive Blue 15 has molecular weight of 1282.97 (see *Aldrich Catalog* page 1462). Given that Wexler discloses the equivalence and interchangeability of the dyes, it would have been obvious to one of ordinary skill in the art to use any of the recited dyes to form the complex in Wexler. If Reactive Blue 15 is used as the dye in example 1, it is calculated that the dye solution would possess approximately 2.2% dye which falls within the scope of the present claims. Thus, Wexler clearly meets the limitation in the present claims regarding the amount of dye utilized.

The difference between Wexler and the present claimed invention is the requirement in the present claims regarding the specific type of polyquaternary amine.

Gundlach et al., which is drawn to ink jet ink comprising complex of anionic dye and polyquaternary amine, disclose the use of polyquaternary amine such as polydimethyldiallyl ammonium, polyquaternized polyvinylamine, polyquaternized polyallylamine, epichlorohydrin/amine copolymer, cationic amido amine copolymer, and copolymer of vinyl pyrrolidone and vinyl imidazolium. These polyquaternary amine compounds are capable of forming complexes with anionic dye in order to produce ink with bright color and high waterfastness (col.1, lines 5-14 and col.6, lines 20-25 and 52-58).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use the specific polyquaternary amine compounds disclosed by Gundlach et al. in the ink of Wexler in order to produce ink with bright color and high waterfastness, and thereby arrive at the claimed invention.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler in view of Gundlach et al. as applied to claims 1, 4, and 10 above, and further in view of Mayo et al. (U.S. 6,174,355).

The difference between Wexler in view of Gundlach et al. and the present claimed invention is the requirement in the claims of specific type of anionic dye.

Mayo et al., which is drawn to ink jet ink comprising anionic dye and polyquaternary amine, disclose the use of Projet Magenta 3BOA, which is the tradename for the dye set forth in present claim 13, as dye which reacts favorably with polyquaternary amine. Mayo et al. also disclose the equivalence and interchangeability of Projet Magenta 3BOA with Acid Red 52 as disclosed by Wexler (col.6, lines 59-62 and col.8, lines 5-10).

If Projet Magenta 3BOA disclosed by Mayo et al. is used as the dye in example 1 of Wexler, it is calculated that the dye solution would possess about 1.5% dye which falls within the scope of the present claims, i.e. at least about 2% dye.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use the specific anionic dye disclosed by Mayo et al. in the ink of Wexler, and thereby arrive at the claimed invention.

5. Claims 1, 4-5, 10-12, 16-17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler (U.S. 6,297,296) in view of Gundlach et al. (U.S. 6,054,505).

Wexler discloses process which comprises mixing water/anionic dye with water/polyquaternary amine to cause formation of complex of anionic dye and polyquaternary amine, precipitation of complex, and isolation of the formed complex. There is also disclosed a

process of preparing an ink jet ink composition which comprises adding the anionic dye-polyquaternary amine complex formed from the above process to ink carrier which comprises organic co-solvent including alcohols and ketones. The anionic dye includes Acid Yellow 23, Acid Red 52, Acid Blue 9, and Direct Blue 199 (col.1, lines 5-10, col.3, lines 26-32, col.4, lines 10-11 and 12-18, col.5, lines 4-7, 11-13, 19-22, col.7, lines 11-14, 19-23, and 45-49, and col.8, lines 6-8 and 15-20).

The difference between Wexler and the present claimed invention is the requirement in the present claims of (a) amount of dye and (b) specific type of polyquaternary amine.

With respect to difference (a), it is noted that there is no explicit disclosure of the amount of dye used in the dye solution used to prepare the complex in Wexler. It is noted that example 1 of Wexler discloses using 0.017M dye solution of Tartazine (Acid Yellow 23) from which it is calculated that the dye solution comprises approximately 0.9% dye (0.01 mol/L x 534.37 g/mol (MW of dye) x 1 L/1000 g).

However, this is only one preferred embodiment of Wexler. Col.4, lines 30-36 of Wexler disclose that the amount of dye used depends on the charge of the cationic polymer and that it is desirable either to neutralize the cationic charges on the latex or to maintain a small excess of positive charge. Further, it is disclosed that if the amount of anionic material (anionic dye and anionic stabilizer) is too large, it is detrimental to the ink, i.e. poor light stability, and that the ratio of dye to stabilizer is 1000:1 to 1:1000.

In light of the above and given the broad recitation of the amount of dye required in the present claims, it therefore would have been obvious to one of ordinary skill in the art to choose amount of dye, including that presently claimed, in order to control the charge of the cationic

polymer and thus, the complexing of the dye and the polymer, as well as to control the light stability of the ink, and thereby arrive at the claimed invention.

With respect to difference (b), Gundlach et al., which is drawn to ink jet ink comprising complex of anionic dye and polyquaternary amine, disclose the use of polyquaternary amine such as polydimethyldiallyl ammonium, polyquaternized polyvinylamine, polyquaternized polyallylamine, epichlorohydrin/amine copolymer, cationic amido amine copolymer, and copolymer of vinyl pyrrolidone and vinyl imidazolium. These polyquaternary amine compounds are capable of forming complexes with anionic dye in order to produce ink with bright color and high waterfastness (col.1, lines 5-14 and col.6, lines 20-25 and 52-58).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use the specific polyquaternary amine compounds disclosed by Gundlach et al. in the ink of Wexler in order to produce ink with bright color and high waterfastness, and thereby arrive at the claimed invention.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler in view of Gundlach et al. as applied to claims 1, 4-5, 10-12, 16-17, and 21 above, and further in view of Mayo et al. (U.S. 6,174,355).

The difference between Wexler in view of Gundlach et al. and the present claimed invention is the requirement in the claims of specific type of anionic dye.

Mayo et al., which is drawn to ink jet ink comprising anionic dye and polyquaternary amine, disclose the use of Projet Magenta 3BOA, which is the tradename for the dye set forth in present claim 13, as dye which reacts favorable with polyquaternary amine. Mayo et al. also

disclose the equivalence and interchangeability of Projet Magenta 3BOA with Acid Red 52 as disclosed by Wexler (col.6, lines 59-62 and col.8, lines 5-10).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use the specific anionic dye disclosed by Mayo et al. in the ink of Wexler in order to produce ink with bright color and high waterfastness, and thereby arrive at the claimed invention.

7. Claims 14-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler in view of Gundlach et al. as applied to claims 1, 4-5, 10-12, 16-17, and 21 above, and further in view of Deardurff et al. (U.S. 5,788,754).

The difference between Wexler in view of Gundlach et al. and the present claimed invention is the requirement in the claims of specific type of anionic dye.

Deardurff et al., which is drawn to ink jet ink, disclose the use of Ilford Magenta 377, which is the tradename for the dye set forth in present claim 15, and Ilford Yellow 104, which is the tradename for the dye set forth in present claims 14 and 18, as dyes used to color the ink. Deardurff et al. also disclose the equivalence and interchangeability between Magenta 377 and Yellow 104 with acid dyes such as Acid Yellow 23 and direct dyes as disclosed by Wexler (col.6, lines 25-41).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use the specific anionic dye disclosed by Deardurff et al. in the ink of Wexler in order to produce ink with bright color and high waterfastness, and thereby arrive at the claimed invention.

8. Claims 6-7, 9, 19-20, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler (U.S. 6,297,296) in view of Gundlach et al. (U.S. 6,054,505).

Wexler discloses process which comprises mixing water/anionic dye with water/polyquaternary amine to cause formation of complex of anionic dye and polyquaternary amine, precipitation of complex, and isolation of the formed complex. There is also disclosed a process of preparing an ink jet ink composition which comprises adding the anionic dye-polyquaternary amine complex formed from the above process to ink carrier which comprises organic co-solvent including alcohols and ketones. The anionic dye includes Acid Yellow 23, Acid Red 52, Acid Blue 9, and Direct Blue 199 (col.1, lines 5-10, col.3, lines 26-32, col.4, lines 10-11 and 12-18, col.5, lines 4-7, 11-13, 19-22, col.7, lines 11-14, 19-23, and 45-49, and col.8, lines 6-8 and 15-20).

It is noted that example 1 of Wexler discloses using 0.017M dye solution of Tartazine (Acid Yellow 23) from which it is calculated that the dye solution comprises approximately 0.9% dye (0.01 mol/L x 534.37 g/mol (MW of dye) x 1 L/1000 g). However, as set forth in col.4, lines 12-21 of Wexler, various anionic dyes are used in Wexler in addition to Acid Yellow 23 such as Reactive Blue 15 which has molecular weight of 1282.97 (see *Aldrich Catalog* page 1462). Given that Wexler discloses the equivalence and interchangeability of the dyes, it would have been obvious to one of ordinary skill in the art to use any of the recited dyes to form the complex in Wexler. If Reactive Blue 15 is used as the dye in example 1, it is calculated that the dye solution would possess approximately 2.2% dye which falls within the scope of the present claims. Thus, Wexler clearly meets the limitation in the present claims regarding the amount of dye utilized.

The difference between Wexler and the present claimed invention is the requirement in the claims of (a) specific types of polyquaternary amine and (b) nonpolymeric salt.

With respect to difference (a), Gundlach et al., which is drawn to ink jet ink comprising complex of anionic dye and polyquaternary amine, disclose the use of polyquaternary amine such as polydimethyldiallyl ammonium, polyquaternized polyvinylamine, polyquaternized polyallylamine, epichlorohydrin/amine copolymer, cationic amido amine copolymer, and copolymer of vinyl pyrrolidone and vinyl imidazolium. These polyquaternary amine compounds are capable of forming complexes with anionic dye in order to produce ink with bright color and high waterfastness (col.1, lines 5-14 and col.6, lines 20-25 and 52-58).

With respect to difference (b), Gundlach et al. disclose use of 0.1-40% nonpolymeric salt in order to improve the solubility and stability of the anionic dye-polyquaternary amine complex (col.17, lines 66-67, col.19, lines 51-58, and col.20, lines 7-27).

In light of the motivation for using specific types of polyquaternary amine and nonpolymeric salt disclosed by Gundlach et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use the specific polyquaternary amine compounds disclosed by Gundlach et al. in the ink of Wexler in order to produce ink with bright color and high waterfastness and to use the nonpolymeric salt disclosed by Gundlach in the ink of Wexler in order to improve stability of the anionic dye-polyquaternary amine complex, and thereby arrive at the claimed invention.

9. Claims 6-7, 9, 19-20, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler (U.S. 6,297,296) in view of Gundlach et al. (U.S. 6,054,505).

Wexler discloses process which comprises mixing water/anionic dye with water/polyquaternary amine to cause formation of complex of anionic dye and polyquaternary amine, precipitation of complex, and isolation of the formed complex. There is also disclosed a process of preparing an ink jet ink composition which comprises adding the anionic dye-polyquaternary amine complex formed from the above process to ink carrier which comprises organic co-solvent including alcohols and ketones. The anionic dye includes Acid Yellow 23, Acid Red 52, Acid Blue 9, and Direct Blue 199 (col.1, lines 5-10, col.3, lines 26-32, col.4, lines 10-11 and 12-18, col.5, lines 4-7, 11-13, 19-22, col.7, lines 11-14, 19-23, and 45-49, and col.8, lines 6-8 and 15-20).

The difference between Wexler and the present claimed invention is the requirement in the present claims of (a) amount of dye, (b) specific type of polyquaternary amine, and (c) nonpolymeric salt.

With respect to difference (a), it is noted that there is no explicit disclosure of the amount of dye used in the dye solution used to prepare the complex in Wexler. It is noted that example 1 of Wexler discloses using 0.017M dye solution of Tartazine (Acid Yellow 23) from which it is calculated that the dye solution comprises approximately 0.9% dye (0.01 mol/L x 534.37 g/mol (MW of dye) x 1 L/1000 g).

However, this is only one preferred embodiment of Wexler. Col.4, lines 30-36 of Wexler disclose that the amount of dye used depends on the charge of the cationic polymer and that it is desirable either to neutralize the cationic charges on the latex or to maintain a small excess of positive charge. Further, it is disclosed that if the amount of anionic material (anionic dye and

anionic stabilizer) is too large, it is detrimental to the ink, i.e. poor light stability, and that the ratio of dye to stabilizer is 1000:1 to 1:1000.

In light of the above and given the broad recitation of the amount of dye required in the present claims, it therefore would have been obvious to one of ordinary skill in the art to choose amount of dye, including that presently claimed, in order to control the charge of the cationic polymer and thus, the complexing of the dye and the polymer, as well as to control the light stability of the ink, and thereby arrive at the claimed invention.

With respect to difference (b), Gundlach et al., which is drawn to ink jet ink comprising complex of anionic dye and polyquaternary amine, disclose the use of polyquaternary amine such as polydimethyldiallyl ammonium, polyquaternized polyvinylamine, polyquaternized polyallylamine, epichlorohydrin/amine copolymer, cationic amido amine copolymer, and copolymer of vinyl pyrrolidone and vinyl imidazolium. These polyquaternary amine compounds are capable of forming complexes with anionic dye in order to produce ink with bright color and high waterfastness (col.1, lines 5-14 and col.6, lines 20-25 and 52-58).

With respect to difference (c), Gundlach et al. disclose use of 0.1-40% nonpolymeric salt in order to improve the solubility and stability of the anionic dye-polyquaternary amine complex (col.17, lines 66-67, col.19, lines 51-58, and col.20, lines 7-27).

In light of the motivation for using specific type of polyquaternary amine and nonpolymeric salt disclosed by Gundlach et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use the specific polyquaternary amine compounds disclosed by Gundlach et al. in the ink of Wexler in order to produce ink with bright color and high waterfastness and to use the nonpolymeric salt disclosed by Gundlach in the ink of Wexler

in order to improve stability of the anionic dye-polyquaternary amine complex, and thereby arrive at the claimed invention.

Response to Arguments

10. Applicants' arguments filed 12/11/03 have been fully considered but hey are not persuasive.

Specifically, applicants argue that:

(a) Wexler does not disclose amount of dye as presently claimed.

(b) There is no motivation to combine Wexler with Gundlach given that Wexler teach the use of cationic latex particles complexed to anionic dye while Gundlach et al. teach the use of complex of anionic dye and polyquaternary amine that is soluble in the ink.

With respect to argument (a), on the one hand, it is noted that with respect to only the claims which require that the first solution comprise anionic dye in an amount of at least about 2%, it is noted that while it is agreed that example 1 of Wexler disclose the use of solution comprising 0.09% dye which is outside the scope of the present claims, this is only one embodiment of Wexler.

As set forth in col.4, lines 12-21 of Wexler, various anionic dyes are used in Wexler in addition to Acid Yellow 23 of example 1 such as Reactive Blue 15, which as found in *Aldrich Catalog* (page 1462), has molecular weight of 1282.97. Given that Wexler discloses the equivalence and interchangeability of the dyes, it would have been obvious to one of ordinary skill in the art to use any of the recited dyes to form the complex in Wexler. If Reactive Blue 15

is used as the dye in example 1, it is calculated that the dye solution would possess approximately 2.2% dye which falls within the scope of the present claims. Thus, Wexler clearly meets the limitation in the present claims regarding the amount of dye utilized.

On the other hand, with respect to all the present claims, it is agreed that there is no explicit disclosure of the amount of dye used in the dye solution used to prepare the complex in Wexler. While example 1 of Wexler discloses using 0.017M dye solution of Tartazine (Acid Yellow 23), from which it is calculated that the dye solution comprises approximately 0.9% dye, this is only one preferred embodiment of Wexler.

Col.4, lines 30-36 of Wexler disclose that the amount of dye used depends on the charge of the cationic polymer and that it is desirable either to neutralize the cationic charges on the latex or to maintain a small excess of positive charge. Further, it is disclosed that the amount of anionic material (anionic dye and anionic stabilizer) is too large, it is detrimental to the ink, i.e. poor light stability, and that the ratio of dye to stabilizer is 1000:1 to 1:1000.

In light of the above and given the broad recitation of the amount of dye required in the present claims, it therefore would have been obvious to one of ordinary skill in the art to choose amount of dye, including that presently claimed, in order to control the charge of the cationic polymer and thus, the complexing of the dye and the polymer as well as to control the light stability of the ink, and thereby arrive at the claimed invention.

With respect to argument (b), it is noted that the dye-polyquaternary amine complex of Gundlach et al. is only soluble upon addition of other ingredients to the ink especially the nonpolymeric salt. If the polyquaternary amine and dye are added to water prior to the addition

of other ingredients such as salt, a precipitated complex forms. There is no disclosure in Wexler of the use of nonpolymeric salt which is why Wexler is used in combination with Gundlach et al. to reject claims 6 and 19 which require that the complex of anionic dye and polyquateranry amine is soluble in the ink.

Wexler discloses process comprising mixing water/anionic dye with water/cationic latex to cause formation of complex of anionic dye and cationic latex, precipitating the complex, and isolating the formed complex. The complex is then added to other ingredients to form ink.

Wexler discloses the use of cationic latex includes polyquaternary amine, but there is no disclosure of specific types of polyquaternary amines or that the complex is soluble in the ink as required in present claims 6 and 19 which is why Wexler is used in combination with Gundlach et al. which teach specific types of polyquaternary amines utilized when forming complex of anionic dye and polyquaternary amine for ink jet inks and also the use of nonpolymeric salt in order to improve the stability and solubility of such complex.

Given that Gundlach et al. is drawn to the same field of endeavor as Wexler and teach the use of specific type of polyquaternary amines already broadly disclosed by Wexler as well as motivation for using nonpolymeric salt, it is the examiner's position that the combination of Wexler with Gundlach et al. is proper.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
2/21/04